



PCT

ENTERED

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/936,759

DATE: 12/16/2002 P6
TIME: 15:17:04

Input Set : A:\76518150.app

Output Set: N:\CRF4\12162002\I936759.raw

3 <110> APPLICANT: JEFFERSON, RICHARD
 4 MAYER, JORGE E.
 6 <120> TITLE OF INVENTION: MICROBIAL BETA-GLUCURONIDASE GENES, GENE PRODUCTS AND
 7 USES THEREOF
 9 <130> FILE REFERENCE: 076518-0150
 11 <140> CURRENT APPLICATION NUMBER: 09/936,759
 C--> 12 <141> CURRENT FILING DATE: 2002-04-22
 14 <150> PRIOR APPLICATION NUMBER: PCT/US00/07107
 15 <151> PRIOR FILING DATE: 2000-03-16
 17 <150> PRIOR APPLICATION NUMBER: 09/270,957
 18 <151> PRIOR FILING DATE: 1999-03-17
 20 <150> PRIOR APPLICATION NUMBER: 09/149,927
 21 <151> PRIOR FILING DATE: 1998-09-08
 23 <150> PRIOR APPLICATION NUMBER: 60/058,263
 24 <151> PRIOR FILING DATE: 1997-09-09
 26 <160> NUMBER OF SEQ ID NOS: 120
 28 <170> SOFTWARE: PatentIn Ver. 2.1
 30 <210> SEQ ID NO: 1
 31 <211> LENGTH: 2100
 32 <212> TYPE: DNA
 33 <213> ORGANISM: Staphylococcus sp.
 35 <400> SEQUENCE: 1
 36 agcctttact tttctttcaa cttttcatcc cgatactttt ttgtaaatagt ttttttcatt 60
 37 aataatacaa gtcctgattt tgcaagaata atccttttta gataaaaata tctatgctaa 120
 38 taataacatg taaccactta catttaaaaa ggagtgcata catgttatat ccaatcaata 180
 39 cagaaacccg aggaagtgtt gatttaaatg gggctctgaa ttttaaatta gattacggca 240
 40 aaggactgga agaaaagtgg tatgaatcaa aactgacaga taccatatca atggctgtac 300
 41 cttcctccta taatgatata ggtgttacga aggaaattcg aaaccatata ggctatgtat 360
 42 ggtacgagcg tgaattttacc gttcctgctt atttaaaaga tcagcgcata gtcctgcgtt 420
 43 ttggttcagc aacacataag gctattgtat acgttaacgg agaactagta gttgaacaca 480
 44 aaggcggcct cttaccgttt gaggcagaaa taaacaacag ctttaagagac ggaatgaatc 540
 45 gtgtaacagt agcggttgat aatatttttag atgattctac gctcccagtt gggctatata 600
 46 gtgaaagaca tgaagaaggt ttgggaaaag tgattcgtaa taaacctaat tttgacttct 660
 47 ttaactatgc aggcctacat cgtcctgtaa aaattttata aaccctttt accatatgtt 720
 48 aggatataatc ggttgtaacc gattttaacg gtccaacggg aacagttacg tatacagttg 780
 49 attttcaggg taaggcagaa accgtaaagg ttagtgtagt tgatgaagaa gggaaagttg 840
 50 ttgcttcaac tgaaggcctc tctggtaagt ttgagattcc taacgttatc ctttgggaac 900
 51 ctttaaatat ctatctctat caaattaaag ttgagttagt aaatgatggt ctaactattg 960
 52 atgtatacga agagccattt ggagttcgaa ccggtgaagt aaacgacggg aaattcctca 1020
 53 ttaataacaa accattttat tttaaagggt tcggaaaaca cgaggatact ccaataaatg 1080
 54 gaagaggcct taatgaagca tcaaatgtaa tggattttta tattttgaaa tggatcggtg 1140
 55 cgaattcctt tcggacggcg cactatcctt attctgaaga actgatgcgg ctgcagatc 1200
 56 gtgaagggtt agtcgtcata gatgaaacct cagcagttgg tgttcatttg aactttatgg 1260

RAW SEQUENCE LISTING

DATE: 12/16/2002

PATENT APPLICATION: US/09/936,759

TIME: 15:17:04

Input Set : A:\76518150.app

Output Set: N:\CRF4\12162002\I936759.raw

```

57 caacgactgg tttgggcgaa ggttcagaga gagtgagtac ttgggaaaaa atccggacct 1320
58 ttgaacatca tcaagatgta ctgagagagc tggtttctcg tgataaaaac caccctctg 1380
59 ttgtcatgtg gtcgattgca aatgaagcgg ctacggaaga agaaggcgct tatgaatact 1440
60 ttaagccatt agttgaatta acgaaagaat tagatccaca aaaacgcccc gttaccattg 1500
61 ttttgttcgt aatggcgaca ccagaaacag ataaagtggc ggagttaatt gatgtgattg 1560
62 cattgaatcg atacaacggc tgggtattttg atgggggtga tcttgaagcc gcgaaagtcc 1620
63 accttcgtca ggaatttcat gcgtggaata aacgctgtcc aggaaaacct ataatgataa 1680
64 cagagtatgg ggtgataacc gtagctggtt ttcattgatat tgatccggtt atgtttacag 1740
65 aagagtatca ggttgaatat taccaagcaa atcatgtagt atttgatgaa tttgagaact 1800
66 ttgttggcga gcaggcctgg aattttgcag actttgctac aagccagggt gtcatgcgtg 1860
67 ttcaaggtaa caaaaaaggt gttttcacac gcgaccgcaa accaaaatta gcagcacatg 1920
68 ttttccgcga acgttggaca aacatcccgg atttcgggta taaaaattaa taaaaagctg 1980
69 gttctccaat aggaggccag cttttttaca tggatacaat ggttgtaa at taaaacct 2040
70 cttcattttt tatataaaaa tgaagagggt tttaattttt taaatgttat tacatttttt 2100
73 <210> SEQ ID NO: 2
74 <211> LENGTH: 602
75 <212> TYPE: PRT
76 <213> ORGANISM: Staphylococcus sp.
78 <400> SEQUENCE: 2
79 Met Leu Tyr Pro Ile Asn Thr Glu Thr Arg Gly Val Phe Asp Leu Asn
80 1 5 10 15
82 Gly Val Trp Asn Phe Lys Leu Asp Tyr Gly Lys Gly Leu Glu Lys
83 20 25 30
85 Trp Tyr Glu Ser Lys Leu Thr Asp Thr Ile Ser Met Ala Val Pro Ser
86 35 40 45
88 Ser Tyr Asn Asp Ile Gly Val Thr Lys Glu Ile Arg Asn His Ile Gly
89 50 55 60
91 Tyr Val Trp Tyr Glu Arg Glu Phe Thr Val Pro Ala Tyr Leu Lys Asp
92 65 70 75 80
94 Gln Arg Ile Val Leu Arg Phe Gly Ser Ala Thr His Lys Ala Ile Val
95 85 90 95
97 Tyr Val Asn Gly Glu Leu Val Val Glu His Lys Gly Gly Phe Leu Pro
98 100 105 110
100 Phe Glu Ala Glu Ile Asn Asn Ser Leu Arg Asp Gly Met Asn Arg Val
101 115 120 125
103 Thr Val Ala Val Asp Asn Ile Leu Asp Asp Ser Thr Leu Pro Val Gly
104 130 135 140
106 Leu Tyr Ser Glu Arg His Glu Glu Gly Leu Gly Lys Val Ile Arg Asn
107 145 150 155 160
109 Lys Pro Asn Phe Asp Phe Phe Asn Tyr Ala Gly Leu His Arg Pro Val
110 165 170 175
112 Lys Ile Tyr Thr Thr Pro Phe Thr Tyr Val Glu Asp Ile Ser Val Val
113 180 185 190
115 Thr Asp Phe Asn Gly Pro Thr Gly Thr Val Thr Tyr Thr Val Asp Phe
116 195 200 205
118 Gln Gly Lys Ala Glu Thr Val Lys Val Ser Val Val Asp Glu Glu Gly
119 210 215 220
121 Lys Val Val Ala Ser Thr Glu Gly Leu Ser Gly Asn Val Glu Ile Pro
122 225 230 235 240

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/936,759

DATE: 12/16/2002

TIME: 15:17:04

Input Set : A:\76518150.app

Output Set: N:\CRF4\12162002\I936759.raw

```

124 Asn Val Ile Leu Trp Glu Pro Leu Asn Thr Tyr Leu Tyr Gln Ile Lys
125          245          250          255
127 Val Glu Leu Val Asn Asp Gly Leu Thr Ile Asp Val Tyr Glu Glu Pro
128          260          265          270
130 Phe Gly Val Arg Thr Val Glu Val Asn Asp Gly Lys Phe Leu Ile Asn
131          275          280          285
133 Asn Lys Pro Phe Tyr Phe Lys Gly Phe Gly Lys His Glu Asp Thr Pro
134          290          295          300
136 Ile Asn Gly Arg Gly Phe Asn Glu Ala Ser Asn Val Met Asp Phe Asn
137 305          310          315          320
139 Ile Leu Lys Trp Ile Gly Ala Asn Ser Phe Arg Thr Ala His Tyr Pro
140          325          330          335
142 Tyr Ser Glu Glu Leu Met Arg Leu Ala Asp Arg Glu Gly Leu Val Val
143          340          345          350
145 Ile Asp Glu Thr Pro Ala Val Gly Val His Leu Asn Phe Met Ala Thr
146          355          360          365
148 Thr Gly Leu Gly Glu Gly Ser Glu Arg Val Ser Thr Trp Glu Lys Ile
149          370          375          380
151 Arg Thr Phe Glu His His Gln Asp Val Leu Arg Glu Leu Val Ser Arg
152 385          390          395          400
154 Asp Lys Asn His Pro Ser Val Val Met Trp Ser Ile Ala Asn Glu Ala
155          405          410          415
157 Ala Thr Glu Glu Glu Gly Ala Tyr Glu Tyr Phe Lys Pro Leu Val Glu
158          420          425          430
160 Leu Thr Lys Glu Leu Asp Pro Gln Lys Arg Pro Val Thr Ile Val Leu
161          435          440          445
163 Phe Val Met Ala Thr Pro Glu Thr Asp Lys Val Ala Glu Leu Ile Asp
164          450          455          460
166 Val Ile Ala Leu Asn Arg Tyr Asn Gly Trp Tyr Phe Asp Gly Gly Asp
167 465          470          475          480
169 Leu Glu Ala Ala Lys Val His Leu Arg Gln Glu Phe His Ala Trp Asn
170          485          490          495
172 Lys Arg Cys Pro Gly Lys Pro Ile Met Ile Thr Glu Tyr Gly Ala Asp
173          500          505          510
175 Thr Val Ala Gly Phe His Asp Ile Asp Pro Val Met Phe Thr Glu Glu
176          515          520          525
178 Tyr Gln Val Glu Tyr Tyr Gln Ala Asn His Val Val Phe Asp Glu Phe
179          530          535          540
181 Glu Asn Phe Val Gly Glu Gln Ala Trp Asn Phe Ala Asp Phe Ala Thr
182 545          550          555          560
184 Ser Gln Gly Val Met Arg Val Gln Gly Asn Lys Lys Gly Val Phe Thr
185          565          570          575
187 Arg Asp Arg Lys Pro Lys Leu Ala Ala His Val Phe Arg Glu Arg Trp
188          580          585          590
190 Thr Asn Ile Pro Asp Phe Gly Tyr Lys Asn
191          595          600
194 <210> SEQ ID NO: 3
195 <211> LENGTH: 372
196 <212> TYPE: PRT

```

RAW SEQUENCE LISTING

DATE: 12/16/2002

PATENT APPLICATION: US/09/936,759

TIME: 15:17:04

Input Set : A:\76518150.app

Output Set: N:\CRF4\12162002\I936759.raw

```

197 <213> ORGANISM: Unknown Organism
199 <220> FEATURE:
200 <223> OTHER INFORMATION: Description of Unknown Organism: Enterobacter sp.
201     or Salmonella sp.
203 <220> FEATURE:
204 <221> NAME/KEY: MOD_RES
205 <222> LOCATION: (17)
206 <223> OTHER INFORMATION: Any amino acid
208 <220> FEATURE:
209 <221> NAME/KEY: MOD_RES
210 <222> LOCATION: (103)
211 <223> OTHER INFORMATION: Any amino acid
213 <400> SEQUENCE: 3
214 Gly Lys Leu Ser Pro Thr Pro Thr Ala Tyr Ile Gln Asp Val Thr Val
215   1           5           10           15
W--> 217 Xaa Thr Asp Val Leu Glu Asn Thr Glu Gln Ala Thr Val Leu Gly Asn
218           20           25           30
220 Val Gly Ala Asp Gly Asp Ile Arg Val Glu Leu Arg Asp Gly Gln Gln
221           35           40           45
223 Gln Ile Val Ala Gln Gly Leu Gly Ala Thr Gly Ile Phe Glu Leu Asp
224           50           55           60
226 Asn Pro His Leu Trp Glu Pro Gly Glu Gly Tyr Leu Tyr Glu Leu Arg
227 65           70           75           80
229 Val Thr Cys Glu Ala Asn Gly Glu Cys Asp Glu Tyr Pro Val Arg Val
230           85           90           95
W--> 232 Gly Ile Arg Ser Ile Thr Xaa Lys Gly Glu Gln Phe Leu Ile Asn His
233           100          105          110
235 Lys Pro Phe Tyr Leu Thr Gly Phe Gly Arg His Glu Asp Ala Asp Phe
236           115          120          125
238 Arg Gly Lys Gly Phe Asp Pro Val Leu Met Val His Asp His Ala Leu
239           130          135          140
241 Met Asn Trp Ile Gly Ala Asn Ser Tyr Arg Thr Ser His Tyr Pro Tyr
242 145          150          155          160
244 Ala Glu Lys Met Leu Asp Trp Ala Asp Glu His Val Ile Val Val Ile
245           165          170          175
247 Asn Glu Thr Ala Ala Gly Gly Phe Asn Thr Leu Ser Leu Gly Ile Thr
248           180          185          190
250 Phe Asp Ala Gly Glu Arg Pro Lys Glu Leu Tyr Ser Glu Glu Ala Ile
251           195          200          205
253 Asn Gly Glu Thr Ser Gln Gln Ala His Leu Gln Ala Ile Lys Glu Leu
254           210          215          220
256 Ile Ala Arg Asp Lys Asn His Pro Ser Val Val Cys Trp Ser Ile Ala
257 225          230          235          240
259 Asn Glu Pro Asp Thr Arg Pro Asn Gly Ala Arg Glu Tyr Phe Ala Pro
260           245          250          255
262 Leu Ala Lys Ala Thr Arg Glu Leu Asp Pro Thr Arg Pro Ile Thr Cys
263           260          265          270
265 Val Asn Val Met Phe Cys Asp Ala Glu Ser Asp Thr Ile Thr Asp Leu
266           275          280          285

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/936,759

DATE: 12/16/2002

TIME: 15:17:04

Input Set : A:\76518150.app

Output Set: N:\CRF4\12162002\I936759.raw

```

268 Phe Asp Val Val Cys Leu Asn Arg Tyr Tyr Gly Trp Tyr Val Gln Ser
269      290                      295                      300
271 Gly Asp Leu Glu Lys Ala Glu Gln Met Leu Glu Gln Glu Leu Leu Ala
272 305                      310                      315                      320
274 Trp Gln Ser Lys Leu His Arg Pro Ile Ile Ile Thr Glu Tyr Gly Val
275                      325                      330                      335
277 Asp Thr Leu Ala Gly Met Pro Ser Val Tyr Pro Asp Met Trp Ser Glu
278                      340                      345                      350
280 Lys Tyr Gln Trp Lys Trp Leu Glu Met Tyr His Arg Val Phe Asp Arg
281                      355                      360                      365
283 Gly Ser Val Cys
284      370
287 <210> SEQ ID NO: 4
288 <211> LENGTH: 376
289 <212> TYPE: PRT
290 <213> ORGANISM: Staphylococcus hominis
292 <220> FEATURE:
293 <221> NAME/KEY: MOD_RES
294 <222> LOCATION: (209)
295 <223> OTHER INFORMATION: Any amino acid
297 <220> FEATURE:
298 <221> NAME/KEY: MOD_RES
299 <222> LOCATION: (351)
300 <223> OTHER INFORMATION: Any amino acid
302 <400> SEQUENCE: 4
303 Gly Leu Ser Gly Asn Val Glu Ile Pro Asn Val Ile Leu Trp Glu Pro
304 1                      5                      10                      15
306 Leu Asn Thr Tyr Leu Tyr Gln Ile Lys Val Glu Leu Val Asn Asp Gly
307                      20                      25                      30
309 Leu Thr Ile Asp Val Tyr Glu Glu Pro Phe Gly Val Arg Thr Val Glu
310                      35                      40                      45
312 Val Asn Asp Gly Lys Phe Leu Ile Asn Asn Lys Pro Phe Tyr Phe Lys
313 50                      55                      60
315 Gly Phe Gly Lys His Glu Asp Thr Pro Ile Asn Gly Arg Gly Phe Asn
316 65                      70                      75                      80
318 Glu Ala Ser Asn Val Met Asp Phe Asn Ile Leu Lys Trp Ile Gly Ala
319                      85                      90                      95
321 Asn Ser Phe Arg Thr Ala His Tyr Pro Tyr Ser Glu Glu Leu Met Arg
322                      100                      105                      110
324 Leu Ala Asp Arg Glu Gly Leu Val Val Ile Asp Glu Thr Pro Ala Val
325                      115                      120                      125
327 Gly Val His Leu Asn Phe Met Ala Thr Thr Gly Leu Gly Glu Gly Ser
328 130                      135                      140
330 Glu Arg Val Ser Thr Trp Glu Lys Ile Arg Thr Phe Glu His His Gln
331 145                      150                      155                      160
333 Asp Val Leu Arg Glu Leu Val Ser Arg Asp Lys Asn His Pro Ser Val
334                      165                      170                      175
336 Val Met Trp Ser Ile Ala Asn Glu Ala Ala Thr Glu Glu Glu Gly Ala
337                      180                      185                      190

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/936,759

DATE: 12/16/2002
TIME: 15:17:05

Input Set : A:\76518150.app
Output Set: N:\CRF4\12162002\I936759.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; Xaa Pos. 17,103
Seq#:4; Xaa Pos. 209,351
Seq#:5; Xaa Pos. 2,20,21,29,37,55,60,76,79,83,87,94,101,105,113,114,124,125
Seq#:5; Xaa Pos. 135,140,153,158,162,169,172,174,178,181,186,190,194,195
Seq#:5; Xaa Pos. 197,198,199,200,207,208,210,213,228,305,358,367,373,379
Seq#:5; Xaa Pos. 392,396,408,413,415,423,436,437,438,439,448,450,457,466
Seq#:5; Xaa Pos. 467,468,469,473,483,489,490,495,497,501,510,515,516,517
Seq#:5; Xaa Pos. 522,529,535
Seq#:6; Xaa Pos. 61
Seq#:9; N Pos. 54,314,1126,1145,1162,1170,1178,1185,1192,1202,1277
Seq#:10; N Pos. 11,14,18,35,56,71,78,96,104,106,111,151,154,157,158,161,164
Seq#:10; N Pos. 165,167,168,171,181,192,195,197,198,203,220,233,237,245,252
Seq#:10; N Pos. 254,264,270,273,274,285,289,298,301,308,312,316,325,341,355
Seq#:10; N Pos. 366,385,396,400,417,427,430,431,454,455,481,496,498,509,510
Seq#:10; N Pos. 515,533,568,584,588,603,614,621,623,625,631,657,659,662,665
Seq#:10; N Pos. 671,680,688,692,695,701,706,713,718,720
Seq#:11; N Pos. 1,12,16,21,25,27,29,34,35,37,46,47,48,55,58,59,63,64,70,78
Seq#:11; N Pos. 79,89,92,98,99,100,104,108,110,113,117,119,168,171,174,192
Seq#:11; N Pos. 200,202,240,250,258,262,268,285,290,293,296,301,319,333,349
Seq#:11; N Pos. 351,364,369,372,373,384,400,405,407,441,448,460,484,489,503
Seq#:11; N Pos. 530,531,551,553,575,581,584,605,624,639,651,659,665,670,693
Seq#:11; N Pos. 702,712,739,746,761,767,769,777,782,788,862,881,898,906,914
Seq#:11; N Pos. 921,928,938,1013
Seq#:12; N Pos. 3,5,11,24,45,64,67,92,115,170,185,233,243,253,265,288,294
Seq#:12; N Pos. 309,315,320,339,344,347,377,379,393,410,424,465,479,490,504
Seq#:12; N Pos. 513,519,522,526,537,539,548,563,564,587,595,599,602,603,626
Seq#:12; N Pos. 629,643,688,840,1078,1106,1107,1123,1143,1180,1193,1229
Seq#:12; N Pos. 1244,1250,1274,1312,1313,1316,1318,1319,1321,1348,1353,1354
Seq#:12; N Pos. 1356,1375,1376,1401,1402,1403,1404,1407,1408,1409,1410,1413
Seq#:12; N Pos. 1423,1454,1471,1475,1489,1496,1509,1535,1536,1551,1552,1557
Seq#:12; N Pos. 1571,1572,1593,1605,1609,1688
Seq#:13; N Pos. 7,20
Seq#:14; N Pos. 181
Seq#:19; Xaa Pos. 209,351
Seq#:20; Xaa Pos. 2,20,21,29,37,55,60,76,79,83,87,94,101,105,113,114,124
Seq#:20; Xaa Pos. 125,135,140,153,158,162,169,172,174,178,181,186,193,195
Seq#:20; Xaa Pos. 196,197,204,205,209,224,353,362,368,374,387,391,403,408
Seq#:20; Xaa Pos. 410,418,431,432,433,434,443,445,452,461,462,463,464,468
Seq#:20; Xaa Pos. 478,484,485,490,492,496,505,510,511,512,517,524,530
Seq#:21; Xaa Pos. 61
Seq#:22; Xaa Pos. 17,103
Seq#:25; N Pos. 3,7,12,16,18,20,25,26,28,37,38,39,46,49,50,54,55,61,69,70
Seq#:25; N Pos. 80,83,89,90,91,95,99,101,104,108,110,159,162,165,183,191
Seq#:25; N Pos. 193,231,241,249,253,259,276,281,284,287,292,310,324,340,342

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/936,759

DATE: 12/16/2002
TIME: 15:17:05

Input Set : A:\76518150.app
Output Set: N:\CRF4\12162002\I936759.raw

Seq#:25; N Pos. 355,360,363,364,375,391,396,398,432,439,451,475,480,494,521
Seq#:25; N Pos. 522,542,544,566,572,575,596,615,630,642,650,656,661,684,693
Seq#:25; N Pos. 703,730,737,752,758,760,768,773,779
Seq#:26; N Pos. 9,12,16,33,54,69,76,94,102,104,109,149,152,155,156,159,162
Seq#:26; N Pos. 163,165,166,169,179,190,193,195,196,201,218,231,235,243,250
Seq#:26; N Pos. 252,262,268,271,272,283,287,296,299,306,310,314,323,339,353
Seq#:26; N Pos. 364,383,394,398,415,425,428,429,452,453,479,494,496,507,508
Seq#:26; N Pos. 513,531,566,582,586,601,612,619,621,623,629
Seq#:34; N Pos. 7
Seq#:111; N Pos. 26,27
Seq#:112; N Pos. 17,18

VERIFICATION SUMMARY

DATE: 12/16/2002

PATENT APPLICATION: US/09/936,759

TIME: 15:17:05

Input Set : A:\76518150.app

Output Set: N:\CRF4\12162002\I936759.raw

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:16
L:232 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:96
L:342 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:208
L:366 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:336
L:662 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:665 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:16
L:668 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:32
L:671 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:48
L:674 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:64
L:677 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:80
L:680 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:96
L:683 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:112
L:686 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:128
L:689 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:144
L:692 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:160
L:695 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:176
L:698 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:192
L:701 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:208
L:704 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:224
L:719 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:304
L:728 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:352
L:731 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:368
L:734 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:384
L:737 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:400
L:740 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:416
L:743 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:432
L:746 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:448
L:749 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:464
L:752 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:480
L:755 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:496
L:758 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:512
L:761 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:528
L:785 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:48
L:1233 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:0
L:1238 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:300
L:1251 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:1080
L:1252 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:1140
L:1253 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:1200
L:1254 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:1260
L:1659 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:0
L:1660 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:60
L:1661 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:120
L:1662 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:180
L:1663 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:240
L:1664 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:300
L:1665 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:360
L:1666 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:420

VERIFICATION SUMMARY

DATE: 12/16/2002

PATENT APPLICATION: US/09/936,759

TIME: 15:17:05

Input Set : A:\76518150.app

Output Set: N:\CRF4\12162002\I936759.raw

L:1667 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:480
L:1668 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:540
L:1669 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10 after pos.:600